DOCUMENT RESUME

ED 362 977 EA 025 344

AUTHOR Teddlie, Charles; Roberts, Sharon Pol
TITLE More Clearly Defining the Field: A Survey of Subtopics in School Effects Research.
PUB DATE Apr 93
NOTE 37p.; Paper presented at the Annual Meeting of the American Educational Research Association (Atlanta, GA, April 12-16, 1993).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Educational Improvement; Educational Methods; Educational Researchers; *Effective Schools Research; Elementary Secondary Education; Factor Analysis; Rating Scales; *Research Methodology; *Research Needs; *School Effectiveness

ABSTRACT

This paper presents findings of a study that sought to delineate subtopics within school-effects research (SER). After conducting a literature review and determining initial categories, a survey was conducted of 37 authors who were judged to have made the most significant contribution to SER within the last decade. A total of 28 authors responded. A second, revised survey was then sent to 198 SER researchers and practitioners, which asked participants to rank 12 SER subtopics. A total of 142 responses were received, a 72 percent response rate. Three types of individuals interested in SER were identified--scientists, pragmatists, and humanists. These three types appear to be roughly aligned with the three strands of SER--educational production-function studies, "effective" schools studies, and school-improvement studies. All respondents rated school change and school effects as important subtopics. However, the scientists were most concerned with methodological issues, whereas the humanists and pragmatists ranked teacher-school interaction and context issues highly. An implication is that by delineating subtopics of SER and the critical issues within them, the field of school effects can be advanced. Seven tables and one figure are included. (LMI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 362 977

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

C. Teddlie

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

More Clearly Defining the Field:
A Survey of Subtopics
in School Effects Research

Charles Teddlie

Sharon Pol Roberts

College of Education

Louisiana State University

Baton Rouge, LA 70803-4721

Paper Presented at Annual AERA Meeting

Atlanta, GA

April 14, 1993

EA 025 344

More Clearly Defining the Field: A Survey of Subtopics in School Effects Research

The field of school effects research (SER) is now over 25 years old, if one considers the Coleman Report of 1966 as the first major study in the area. While there have numerous reviews of SER (i.e., Good & Brophy,1986; Levine & Lezotte,1990; Purkey & Smith,1983), there is no widely accepted delineation of subtopics within this burgeoning literature. The current report is based on a two-phase survey of "experts" in the area with regard to their perceptions of the existence and importance of subtopics within SER.

Subtopics Within SER: Why Haven't They Been Delineated?

SER grew out of a response to the Coleman et al (1966) conclusion that schools make little difference in the lives of their students, but has proceeded to encompass a wide array of subtopics in the intervening 25+ years. SER in this report includes three major strands: educational production function studies that attempt to relate school inputs to school outcomes using increasingly sophisticated mathematical models; "effective schools" studies that describe characteristics of differentially effective schools using the outlier and case study approaches ; and school improvement studies that document the implementation and success of school change efforts.

The inclusion of three such broad areas under the rubric of school effects may be surprising to some, but that is in fact the way a number of writers have envisioned the field. For instance, Good and Brophy's influential 1986 article in the Third Handbook of Research on Teaching entitled "School Effects" reviewed all three strands when they: (1) traced the roots of the area to Coleman's (1966) study, which utilized the educational production function methodology and analysis strategies; (2) focused on several case studies and outlier studies in the "effective schools" tradition; and (3) included reviews of the most important studies of school improvement at that time.

One respondent referred to these three strands and their current relationships to one another:

> "Bringing together the methods at both extremes into a literature that is interpretable by the practitioner is an important issue today. We have the rigor of HLM and the richness of ethnographies, but school improvement models are not being developed based on the findings of either. Rather, the more easily understood 'correlates' form the basis for improvement models" (Respondent # 23, first round survey).

Despite the wide array of specific subtopics within each of these broad strands, there is no conventional taxonomy of SER subareas, although researchers often write about the context of school effects (e.g., Hallinger & Murphy,1986; Teddlie & Stringfield,1985,1993; Wimpelberg,Teddlie & Stringfield,1989),the stability of school effects (e.g., Mandeville & Anderson,1987; Nutall,etal,1989), the magnitude

of school effects (e.g., Brookover,etal,1979; Reynolds,1992), and so forth.

The are several reasons for this failure to delineate subtopics: (1) the fact that researchers in each of the different SER strands noted above have seldom worked together and in some cases see one another as competitors; (2) a reluctance to focus on SER, since school improvement is the raison d'etre for the field (not the development of a "science" of school effects) according to many practitioners in the area ; (3) the dearth of school effectiveness/school improvement courses at the graduate level in both the USA and Europe,which (if they existed) would require professors to organize the literature into generally recognized subareas ; (4) residue from the severe criticism of the "effective schools" literature in the USA during the mid-1980's, which led to the labeling of the work as "reform posing as science" (i.e.,Ralph & Fennessey,1983) and of the researchers as "shamans" (Rowan,1984); and (5) the late development of certain important normative institutions in the field such as the AERA SIG (1984), the first annual meeting exclusively for those interested in the field (1988) and a journal devoted exclusively to the field (1990). These institutions were established 18-24 years after the Coleman Report.

There is evidence that now is a good time to differentiate both subtopics and issues within each of those subtopics, which may then prove heuristic in generating

studies designed to probe more deeply the realities of school effects. Evidence for the maturity of the field include: (1)the growing body of research subsumed under school effects (i.e., a recent ERIC using school effects as the key word and going back only 5 years yielded over 300 articles) ; (2) the emergence of an international journal (School Effectiveness and School Improvement or SESI),as well as the International Congress for School Effectiveness and Improvement (ICSEI), which will hold its seventh annual meeting in 1994 ; (3) the fact that SER is now overlapping in terms of research agendas with other, more established areas such as teacher effects (e.g. Kirby,1993; Teddlie, Kirby & Stringfield, 1989); and (4) the fact that researchers are now reporting replicable results in several areas such as the context, stability and magnitude of school effects.

Research Questions and Methodology

There were several research questions that guided this exploratory,primarily descriptive study: (1) What major SER subtopics can be delineated through a literature review? (2) What importance do experts in the field assign to each of the subtopics derived from the literature review? (3) What other areas do experts believe should be included in a taxonomy of important subtopics? (4) How would another group of experts rank a list of subtopics revised on the basis of answers to

questions #2 and #3 above? (5) Do different groups of respondents respond differentially when rank ordering the subtopics?

In order to answer these questions, we undertook a multistage project including the following phases:

(1) Phase 1. Literature Review The literature review was undertaken to develop a set of categories for the first round of the study and to identify a sample of experts (researchers and practitioners), who would serve as respondents. Sources for the literature review included an ERIC search using school effects and school effectiveness as the keywords, the literature reviews noted above plus others, all issues of SESI, the published proceedings of ICSEI and the catalogs of the last nine AERA meetings (starting with 1984 when the SIG was formed) using school effectiveness or school improvement as keywords. The ERIC search alone listed around 3000 references, so we included only those published in the last five years. The final bibliography from these sources had 400+ references, which were the most relevant from the much larger total list that emerged.

(2) Phase 2. Determination of Initial Categories Using the titles of the references and their abstracts as text, we (the principal investigator and two graduate assistants) used the constant comparative method to arrive at preliminary SER subtopics (Lincoln & Guba,1985). This process was automated using Qualpro (Blackman,1991), a text database manager. Using

three separate coders to increase the reliability/validity of the initial categorization scheme (i.e., Patton,1990), a list of 17 distinct subtopics emerged. These subtopics were then used in the first round survey, which will be described below. The list of 17 subtopics together with brief descriptors is found in Appendix 1.

(3) Phase 3. Development of First Round Survey and Sample

The first survey consisted of two parts: a closed-ended section asking respondents to indicate the importance of the 17 subtopics derived from Phase 2 on five point scales; and a series of seven open-ended questions asking participants what are the most important current issues in SER, the most important methodological issues in SER, the current strengths/weaknesses of the research area, etc.

From the 400+ references derived in Phase 1, we made a list of authors and then selected some 150 authors to be included in our sampling frame for the first survey. Selection criteria included number of references and importance of contribution to SER. These authors were also to be included in the sampling frame for the second round survey.

Our final sample for the first survey included the 44 authors who were consensus choices by three judges (the principal investigator and two graduate assistants) to have made the most significant contribution to SER over the past ten years. As with many aspects of this study, this selection

procedure for the first round survey was subjective, but such is the nature of exploratory work in any field. Our intention was to include a more broad based sample for the second round survey.

(4) Phase 4. Development of Second Round Survey and Sample Based on results from the first round survey, a revised list of subtopics was constructed deleting some with low ratings and adding others suggested from the open-ended responses. More information on this process will be included in the Results section. The second round survey consisted of asking respondents to rank order 12 SER subtopics from most to least important. A copy of the second round survey is located in Appendix 2.

The expanded sample for the second round survey included: those respondents from the first round who responded to the first survey; those authors who were designated as significant contributors to SER, but were not included in the first round survey; and a list of practitioners sampled from three sources (AERA SIG list, SESI subscriber list, National Center for Effective Schools Research and Development membership list). The final sample frame consisted of 225 individuals. After deleting names of individuals no longer active in the field or for whom we did not have a current address, our final sample consisted of 209 individuals.

Results

Results from First Survey Descriptive Statistics from First Survey

First round surveys were mailed to the 44 respondents identified in the previous section. Seven surveys were returned as undeliverable or were returned by respondents who refused to reply. Of the 37 remaining valid members from the first survey study, 19 returned usable completed questionnaires on the first mailout. A second mailout resulted in nine more responses, for a total of 28 responses. The total response rate of 77% (28 of 37) was considered adequate for this survey.

Table 1 presents the means and standard deviations (sds) for the 17 response categories. (Refer to Appendix 1 for a listing and brief definitions of all 17 categories). Responses ranged from one (not important at all) to five (extremely important). The first notable result is the restricted range of responses to the five point scales. The lowest mean score was 3.5, while the highest was 4.6. Thus these experts availed themselves of a range of only 1.1 points on a 5 point scale. As one respondent noted, "They're all important". For this reason, we decided to use rank order scales for the second round survey.

As noted in Table 1, the subtopic with the highest average score was "The Interaction of Teacher and School Effects", denoted as Teacher-School Interaction. Those

subtopics with the lowest mean values were "Definitions of School Effectiveness" (denoted as Definitions in Table 1) and "Parental Role in School Effects" (denoted as Parental Role in Table 1). Seven of the subtopics had mean scores at 3.63 or lower, while 10 of the subtopics had mean scores of 3.7 or higher.

The subtopic with the largest sd was "External School Improvement", which was also one of the items with a low overall rating (3.59). The subtopic with the highest overall rating (Teacher-School Interaction) also had the smallest sd (0.57).

Revision of Subtopic List Based on First Study Results

As noted above, a major purpose of the first survey was to revise the list of subtopics based on expert opinion. This process was two-fold: first, those subtopics with low mean ratings on the survey were to be eliminated; second, the open-ended responses were to be used to generate new and to revise existing subtopics.

The following procedure was used to produce the list of subtopics used in the second round study:

(1) Those subtopics with the lowest overall mean scores were eliminated from the list. The seven subtopics with mean scores of 3.63 or lower were dropped, although some of them were later added back to the list in different form, as noted below. One eliminated subtopic was "The Correlates of School

Effectiveness", which several respondents indicated was of great historical importance, but lacked current relevance.

(2) The subtopic "The Multilevel Nature of School Effects" was eliminated,since several respondents said it was redundant to other subtopics (such as, Teacher-School Interaction or "District Effects upon School Effects").

(3) Several respondents suggested that we substitute "The Role of Leadership in School Effects" for "The Role of the Principal in School Effects", which we did.

(4) Several respondents also suggested that we combine "The Consistency of School Effects across Measures" with "The Stability of School Effects across Time". We combined these categories in the second round survey.

(5) Some respondents suggested that we expand the definition of the subtopic "District Effects upon School Effects" to include "State Effects" also. We did this, and we also expanded the brief description to include "the effects of units above the school, including school boards".

(6) While "External School Improvement" and "Naturally Occurring School Change " were eliminated due to low mean scores, respondents suggested that we include some subtopic that addressed the issue of school change. We included the subtopic "The Relationship of School Effects to School Change (e,g., school improvement, school restructuring, site-based management)" to address this issue.

(7) Several respondents suggested that we add two new subtopics: "School Effects and Curriculum Issues" and "International Comparative Studies of School Effects". While neither of these topics showed up prominently in our literature review, respondents felt that these topics will become increasingly important in the future.

For instance, one respondent spoke of curriculum issues as follows:

> "I feel it is critical to look at the relationship between school effectiveness and the curriculum (broadly defined as everything happening within the classroom itself) because ultimately the focus is on the effect or impact of these other variables on the learning - how it ultimately impacts kids" (Respondent # 110, second round survey).

All of these changes, which are summarized in Figure 1, were incorporated into the revised subtopic list found in Appendix 2. As might be expected, some of the respondents were not satisfied with the revised list of subtopics, as illustrated by the following quote:

> "Some of the items on the reverse side are vague or combinations of independent elements....I think this dooms the findings of this research to be ambiguous" (Respondent # 187, second round survey.)

We agree, but believe that an "ambiguous" beginning to delineating SER is better than no start at all.

The qualitative analysis of open-ended responses was used in revising the subtopic list. These responses contained a wealth of information on several topics, which cannot be presented in this paper due to time constraints. Further

analysis of this qualitative data will be presented in a future paper.

Results from Second Survey Overall Rankings for the Twelve Subtopics

Second round surveys were mailed to the 209 respondents identified in the Methods section. Eleven surveys were returned as undeliverable or were returned by respondents who refused to reply. Of the 198 remaining members on the second survey list, 142 returned usable, completed questionnaires. This response rate of 72% for a one time mailout is quite high, indicating considerable enthusiasm for the survey.

Of the 198 members of the final sampling frame, 28% (55) were not from the USA. The response rate at the time of the report was 65% (36/55) for the non-USA respondents and 74% (106/143) for the USA respondents.

Borg and Gall (1989) reported a synthesis of the survey literature indicating that response rates for one time mailouts averaged 48%, while three mailouts were required to attain the greater than 70% rate that we got on our first try. Due to this high response rate and time constraints, we decided to not undertake a second mailout. (Two more respondents returned their questionnaires after the data analysis reported here was completed, raising the response rate to 73%).

Table 2 presents the median and interquartile ranges for responses to the SER subtopics. This table also presents means and sds for each of the twelve subtopics, based on an analysis that treated the data as if it were parametric. The results from the two analyses were nearly identical in that:

(1) The median and mean results reported the exact same ordering of SER subtopics in perceived importance ranging from "The Relationship of School Effects to School Change" (denoted School Change in Table 2), which was ranked most important, to "International Comparative Studies of School Effects" (denoted International Studies) which was ranked least important.

(2) The interquartile ranges and standard deviations revealed nearly identical scores also, ranging from School Change which had the least variance in responses to "the Existence and Magnitude of School Effects" (denoted Existence/Magnitude Issues in Table 2), which manifested the most variance.

Due to the high degree of similarity between the parametric and nonparametric descriptive data, we decided to employ inferential parametric techniques when further analyzing the data. As noted by Harris(1985):

> ...we have such strong mathematical and empirical evidence of the robustness of statistical procedures under violation of normality or homogeneity of variance assumptions that the burden of proof must be presumed to be on the shoulders of those who claim that a particular set of data can

be analyzed only through 'nonparametric' statistical techniques(p.326).

The "burden of proof" was not demonstrated in this dataset,
which has descriptive nonparametric statistics almost identical to those generated by re-analysis of the data using descriptive parametric statistics. Thus, we used parametric statistics, such as factor analysis and multivariate analysis of variance (MANOVA), in further analyses.

Factor Analysis of Responses to Second Survey

Factor analytic work employing principal components analysis, followed by a varimax rotation, resulted in a five factor solution (if the eigenvalue greater than or equal to 1.00 criteria was used) or a three factor solution (if a scree test was utilized). We decided to utilize a one factor solution for the following reasons:

(1) The five factor solution had two uninterpretable factors.

(2) The three factor solution had factors which included items that were highly positively and highly negatively loaded. Further perusal of these three factors indicated two distinct patterns of response, one of which seemed to imply a humanistic, applied research, school change orientation, while the other suggested a more scientific,

basic research, theoretical orientation. Table 3 contains a summary of the factor loadings from the three factor solution.

(3) A one factor solution was ideal for further exploring these two orientations in a singular response pattern. The one factor solution assigns a valence to each subtopic, and since there is just one pattern of loadings to examine, these loadings can then be grouped into two categories (one positive,one negative). We surmised that if the subtopics within each valence category grouped together based on the different orientations suggested in (2) above, then there would be empirical support for the conjecture that some responders are ranking subtopics in one manner, while others are ranking them differentially.

The data in Table 4 appear to confirm the existence of these two distinct response patterns. Those subtopics with positive valences included: (1) School Change; (2) Teacher-School Interaction; (3) Role of Leadership; (4) Curriculum Issues (School Effects and Curriculum Issues);(5) Context Issues (The Context of School Effects);and (6) District-State Effects [District and State Effects Upon School Effects(i.e.,the effects of units above the school)].

Those subtopics with negative valences included: (1) Methodological Issues [in SER (e,g., validity,reliability, generalizability, etc.)]; (2)Variance Issues (The Variance of Behaviors within Differentially Effective Schools); (3) Stability Issues (The Stability of School Effects across Time

and Consistency of School Effects across Measures); (4) Existence/Magnitude Issues; (5) Theory (the Role of Theory in SER); and (6) International Studies.

Perusal of these two sets of subtopics confirm earlier speculation arising from the results of the three factor solution. Respondents giving high ranks to subtopics with positive valences are probably more interested in applied studies of school effects that have direct implications for school change processes. We might call these SER researchers "humanists" to use the terminology of Cronbach(1982).

On the other hand, those respondents who gave high ranks to subtopics with negative valences are more interested in theoretically driven studies of the basic school effects processes. As one scientist pithily put it, "Theory is first, methodology is second, more specific issues third" (Respondent # 24, second round survey). Cronbach would call these individuals "scientists" and contrast their orientation with that of the "humanists" previously described.

Results of Comparisons between Humanists and Scientists

The data in Table 5 present the results of univariate ANOVA F tests in which the responses of these two groups (humanists, scientists) were compared. Group assignment resulted from multiplying each respondent's ranks by the factor loading for each of the subtopics. Then, respondents' total scores were arrayed from the most positive to the most

negative. A median split was performed and approximately half (72) of the respondents were classified as humanists, while the others (70) were classified as scientists.

The overall multivariate F for the comparison between the two groups on their rankings was highly significant [(F 12,129)=24.53, p<.0001], as was expected. Two of the most highly significant univariate differences between the humanists and the scientists came on the importance of School Change and of Methodological Issues. As indicated in Table 5, which also compares the order of the rankings for the two groups, the humanists gave School Change an average rank of 2.94 (their highest overall rank), while the scientists gave it a rank of only 5.57. On the other hand, the scientists gave Methodological Issues their highest average rank of 4.39, while the humanists gave it a much lower average rank of 8.11.

Tables 6 compares the rankings given by the total group, the humanists and the scientists. The rankings given by the humanists more closely parallel those given by the total group than do the rankings given by the scientists. Since each group was equally represented in the total sample, it is curious that one group's responses would be more representative of the total sample. The reason for this phenomenon lies in the variances of responses from the two groups. As indicated in Table 5, there is a range of about seven ranks between the humanists' highest average ranking (2.94 for School Change) and their lowest average ranking (9.96 for International

Studies). On the other hand, the range for the scientists is much smaller (4.74), going from a high rank of 4.39 for Methodological Issues to 9.13 for District-State Effects.

The standard deviations for the two group's rankings confirms the differences in variations of responses, with the humanists having a sd of 1.97, while the sd for the scientists was only 1.39. Scientists appear to consider many topics important, including some of those associated with the humanistic orientation. On the other hand, humanists definitely prefer those subtopics associated with School Change, and gave low rankings to almost all the scientific orientation subtopics.

Results of Comparisons among Three Groups

Another way to look at the classification of respondents in the second round survey would involve a tripartite split: (1) humanists - those individuals scoring in the upper one-third of the continuum described in the previous section; (2) pragmatists - those individuals scoring in the middle one-third of the continuum; and (3) scientists - those individuals scoring in the lower third of the continuum. The mid-range classification has some ecological validity since there are many individuals who consider themselves to be both practitioners and researchers. We have decided to call these individuals "pragmatists", to use a derivation of the term Howe (1988) employed in describing a new theoretical

orientation (pragmatism) that he said combined aspects of both positivism (the theoretical position associated with the scientific orientation) and post-positivism (the theoretical position associated with the humanist orientation). While "fence-sitters" or "middle-of-the-roaders" might be more descriptive terms for these individuals, we will use the less pejorative pragmatist label here.

Data presented in Table 7 indicate significant differences between the three groups on average rankings for 10 of the 12 subtopics. The overall multivariate effect was highly significant [$F(24,254)=28.64$, $p<.0001$]. On all rankings, the score of the middle-of-the roaders was intermediate between that of the scientists and the humanists.

Post-hoc tests revealed that for four of the subtopics, the three groups differed significantly from each other. For four of the subtopics the responses of the scientists differed significantly from those of the other two groups. For those subtopics, pragmatists responded similarly to humanists.

This is particularly interesting on two subtopics: School Change and Existence/Magnitude Issues. The pragmatists believe School Change is the most important subtopic in SER, and rank Existence/Magnitude Issues low in importance. Several of the respondents in the humanist and pragmatist groups indicated that Existence/Magnitude Issues had historical importance, but were no longer that important, since the existence of school effects were now well established. As one

respondent noted, "School effects always exist - change is the issue" (Respondent # 37, first round survey). Scientists, on the other hand, believe that the study of the size of school effects was still very important.

Discussion

This study confirms the "schizophrenic" nature of that group of individuals who are interested in SER. According to their own response patterns there are at least two types of individuals interested in SER: those we have called the humanists and the scientists. Responses indicate that there may even be a third group, who make responses somewhere between the two groups.

From a methodological perspective, it is reassuring that we have all three groups represented in our final sample. This means that we have sampled the full range of those individuals interested in SER. Returning to a point from the introduction, if we believe that there are three distinct strands of SER (educational production function studies, "effective" schools studies, school improvement studies), then our "types" of respondents (scientists,pragmatists, humanists) roughly align with each of those orientations.

These analyses also indicate that both the AERA SIG and the journal are aptly named (School Effectiveness and School Improvement) since respondents (to at least this poll) place a heavy emphasis on school change, as well as school effects. Even the scientists rated school change as their fourth most

important area. On the other hand, the importance of Methodological Issues (the number one concern of scientists) was ranked fifth by pragmatists and seventh by humanists. Apparently, only the scientists are really interested in theory (ranked third by them), since the pragmatists and humanists ranked it ninth and eighth respectively.

The importance of the Teacher-School Interaction and of Context Issues to both the pragmatists and humanists is noteworthy. These are two areas where replicable results have been uncovered over the past five years.

As one respondent noted:

> "Probably the most important issues are the context of school effects and the interaction of teacher and school effects.... Both are areas in which school effects can be considered 'more scientific' since studies in these areas should continue to yield interesting and replicable findings" (Respondent # 41, first round survey).

It is interesting that the scientists, who are the most likely to conduct SER, do not rate these two areas that highly (Teacher-School Interaction was rated eighth and Context Issues fifth by them). The scientists appear to be preoccupied with more traditional SER subtopics such as the consistency, stability, existence and magnitude of school effects.

Some respondents didn't consider these surveys very valuable, even though they gracefully completed them. As one humanist said:

> "Future research should focus on school reform and change. Why in the world is a rank ordering useful? What

decisions will be made on faculty prioritizing their perceptions?" (Respondent # 37, second round survey).

These are fair questions, deserving appropriate response. First, we hope that this research will inform "faculty" and other respondents that there are others doing SER in very similar, and very dissimilar manners. We need to remain aware that there are at least three distinct traditions within our field, and that each group of researchers or practitioners have their own values and agendas. The first step in more closely working together is to understand our differences and look for commonalities in future endeavors to advance the field.

Secondly, presenting a list of subtopics in and of itself should prove educational to many interested in SER. For instance, as noted above, those with scientific orientations rank Context Issues and Teacher-School Interactions low, although studies published recently in these areas are certainly "scientific" in terms of rigor of design and replicability of results.

Similarly, humanists should be aware that many interested in SER are still actively probing the existence and magnitude of certain variables using increasingly sophisticated methods, which should yield more definitive answers in this area. By closely reading these "scientific" studies, humanists and pragmatists may find information of use in their school change efforts.

Finally, the emergence of important subtopics will hopefully stimulate researchers to closely review recent findings in all these areas. Optimally the long-term effect of a list of prioritized major SER subtopics would be to stimulate coherent chains of research, each building on the latest findings. For instance, the study of the effect of the SES of a school's student population on that school's process for becoming and maintaining an effective school has yielded a series of studies from the exploratory and primarily descriptive (Hallinger & Murphy, 1986; Teddlie & Stringfield, 1985) to the confirmatory, utilizing a prior hypotheses (Evans & Teddlie, 1993; Heck, 1992).

As Creemers and Reynolds (1990) noted,"In the early stages of a discipline there is much historical evidence that a problem solving approach is that which is most likely to generate intellectual advances" (p.3). By delineating subtopics, and hopefully critical issues within those subtopics, the field of school effects should be advanced. At the very least, such a list of subtopics ("endorsed" by experts in the field) should encourage someone to write a textbook or teach a graduate level course in the area.

References

Blackman, B. (1991). Qualpro: Text database and productivity tool. Tallahassee, FL: Impulse Development Company.

Borg, M. & Gall, W. (1989). Educational research. 5th Edition. New York: Longman.

Brookover, W.B., Beady, C., Flood, P., Schweitzer, J., & Wisenbaker, J. (1979). Schools, social systems and student achievement: Schools can make a difference. New York: Praeger.

Coleman, J.S., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfeld, R., & York, R. (1966). Equality of educational opportunity. Washington, D.C: Government Printing Office.

Creemers, B., & Reynolds, D. (1990). School effectiveness and school improvement: A mission statement. School Effectiveness and School Improvement, 1 (1), 1-3.

Cronbach, L. J. (1982). Designing evaluations of educational and social programs. San Francisco: Jossey-Bass Publishers.

Evans, L. and Teddlie, C. (1993, April). Principals' change facilitator styles in schools that differ in effectiveness and SES. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Good, T.L., & Brophy, J.E. (1986). School effects. In M. Wittrock (Ed.), Third handbook of research on teaching, (pp. 570-602). New York: MacMillan.

Hallinger, P., & Murphy, J. (1986). The social context of effective schools. American Journal of Education, 94, 328-355.

Harris, R.J. (1985). A primer of multivariate statistics. New York: Academic Press.

Heck, R.H. (1992). Principals' instructional leadership and school performance: Implications for policy development. Educational Evaluation and Policy Analysis, 14 (1), pp. 21-34.

Howe, K. (1988). Against the quantitative-qualitative incompatability thesis or dogmas die hard. Educational Researcher, 17,(8), 10-16.

Kirby, P.C. (1993). Teacher socialization in effective and ineffective schools. In C. Teddlie & S. Stringfield (Eds.) Schools make a difference: Lessons learned from a 10-year study of school effects. New York: Teachers College Press.

Levine, D.U., & Lezotte, L.W. (1990). Unusually effective schools: A review and analysis of research and practice. Madison, WI: The National Center for Effective Schools Research and Development.

Lincoln, Y. & Guba, E. (1985). Naturalistic inquiry. Newbury Park, CA: Sage.

Mandeville, G.K., & Anderson, L.W. (1987). The stability of school effectiveness indices across grade levels and subject areas. Journal of Educational Measurement, 24, 203-216.

Nutall, D.L., Goldstein, H., Prosser, R., & Rasbach, J. (1989). Differential school effectiveness. International Journal of Educational Research, 13, 769-776.

Patton, M.Q. (1990). Qualitative evaluation and research methods. Newbury Park, CA: Sage.

Purkey, S.C., & Smith, M.S. (1983). Effective schools: A review. Elementary School Journal, 83, 427-452.

Ralph, J.H., & Fennessey, J. (1983). Science or reform: Some questions about the effective schools model. Phi Delta Kappan, 64,689-694.

Reynolds, D. (1992). School effectiveness and school improvement. In J. Bashi and Z. Sass (Eds.), School effectiveness and improvement: Selected proceedings of the third international congress for school effectiveness (pp. 67-87). Jerusalem, Israel: Magnes Press.

Rowan, B. (1984). Shamanistic rituals in effective schools. Issues in Education, 2, 76-87.

Teddlie, C., Kirby, P.C., & Stringfield, S. (1989). Effective versus ineffective schools: Observable differences in the classroom. American Journal of Education, 97(3), 221-236.

Teddlie, C., & Stringfield, S. (1985). A differential analysis of effectiveness in middle and lower socioeconomic status schools. Journal of Classroom Interaction,20 (2), 38-44.

Teddlie,C. & Stringfield, S. (1993). Schools make a difference: Lessons learned from a 10-year study of school effects. New York: Teachers College Press.

Wimpelberg, R.K., Teddlie, C., & Stringfield, S. (1989). Sensitivity to context: The past and future of effective schools research. Educational Administration Quarterly, 25(1), 82-107.

Table 1

Respondents' Ratings of Importance of Subtopics from First Round Survey

SUBTOPIC	MEAN	STANDARD DEVIATION
Teacher-School Interaction	4.59	0.57
Context Issues	4.22	0.75
Role of Principal	4.22	0.80
Multilevel Issues	4.15	1.06
Methodological Issues	3.93	1.07
Variance Issues	3.93	1.10
Stability Issues	3.89	1.05
District Effects	3.78	1.18
Existence/Magnitude Issues	3.78	1.37
Theory	3.70	1.17
Consistency Issues	3.63	1.14
Correlates	3.63	1.14
Teacher Induction/Social.	3.59	0.84
External School Improvement	3.59	1.42
Naturally Occurring Sch.Imp.	3.58	1.17
Parental Role	3.52	0.94
Definitions	3.48	1.28

Note. The data in this table are based on questionnaires returned from 28 respondents (77% of sample). Response categories for each subtopic range from 1 (not important at all) to 5 (very important). The names of the subtopics found in this table are shortened from those given on the survey, which is located in Appendix 1.

Figure 1

Revision of Subtopics for Round Two
Survey Based on Responses to Round One

ROUND ONE SUBTOPICS	ROUND TWO SUBTOPICS
(1) Teacher-School Interaction ---------->	Same (1)
(2) Context Issues ---------->	Same (2)
(3) Role of the Principal ---------->	Renamed Role of Leadership (3)
(4) Multilevel Issues ---------->	Eliminated due to Redundancy with other Subtopics
(5) Methodological Issues ---------->	Same as (4)
(6) Variance Issues ---------->	Same as (5)
(7) Stability Issues ---------->	Combined with Consistency and Renamed Stability and Consistency Issues
(8) District Effects ---------->	Expanded to Include State Effects and Renamed District State Effects
(9) Existence/Magnitude Issues ---------->	Same (8)
(10) Theory ---------->	Same (9)
(11) Consistency Issues ---------->	Combined with Stability Issues
(12) Correlates ---------->	Eliminated due to low ratings
(13) Teacher Induction/Socialization ----->	Eliminated due to low ratings

Table 2

Descriptive Summary of Respondents' Rankings of Subtopics from Second Round Survey

SUBTOPIC	MEDIAN	MEAN	INTERQUARTILE RANGE	STANDARD DEVIATION
School Change	3	4.27	2-5, 4 ranks	2.89
Teacher-School Interactions	4	4.74	2-6, 5 ranks	2.93
Context Issues	5	5.51	3-7, 5 ranks	2.94
Role of Leadership	5	5.94	3-8, 6 ranks	3.25
Stability/ Consistency	6	6.04	4-8, 5 ranks	2.93
Curriculum Issues	6	6.14	3-8, 6 ranks	3.19
Methodological Issues	6	6.23	3-8, 6 ranks	3.37
Variance Issues	6	6.61	4-8, 5 ranks	3.04
Theory	7	6.70	4-9, 6 ranks	3.63
Existence/ Magnitude Issues	7	7.08	4-9, 6 ranks	3.79
District/State Effects	8	7.83	6-9, 4 ranks	2.76
International Studies	10	9.27	7-11, 5 ranks	3.27

Note. The data in this table are based on questionnaires returned from 142 respondents (72% of sample). Respondents ranked subtopics from 1 (most important) to 12 (least important). If a respondent did not rank order all items, the remaining items were assigned a rank that was the average of the remaining ranks. For instance, if a respondent ranked nine items, the remaining three items were ranked 11, which is the average of the remaining three ranks (10,11,12).

Figure 1 (Continued)

(14) External School Improvement --------->	Relabeled School Change (10) Due to Respondents' Comments
(15) Naturally Occurring School Improvement -->	Relabeled School Change (10) Due to Respondents' Comments
(16) Parental Role ---------->	Eliminated due to low ratings
(17) Definitions ---------->	Eliminated due to low ratings
Not on Original List ---------->	Curriculum Issues (11) Added due to Respondents' Comments
Not on Original List ---------->	International Studies (12) Added due to Respondents' Comments

Table 3

Subtopic Loading from Factor Analysis of Responses of Second Round Participants: Three Factor Solution

SUBTOPIC	FACTOR 1	FACTOR 2	FACTOR 3
School Change	.05	-.01	.82*
Teacher-School Interaction	-.58*	.06	.03
Context Issues	-.14	-.41*	-.34
Role of Leadership	-.11	-.67*	.16
Stability/Consistency Issues	.66*	.18	-.14
Curriculum Issues	-.52*	-.13	.18
Methodological Issues	.17	.27	-.63*
Variance Issues	.18	-.24	-.37*
Theory	.06	.56*	-.04
Existence/Magnitude Issues	.75*	-.11	.05
District/State Effects	-.16	-.34	.52*
International Studies	-.34	.66*	-.09

Note. These results are from a principal components factor analysis of the second round dataset, followed by a varimax rotation. Data from 142 respondents were included in this analysis. Factor loadings greater in magnitude than $\pm$ .35 are asterisked.

Table 4

Subtopic Loading from Factor Analysis of Responses of Second Round Participants: One Factor Solution

SUBTOPIC	FACTOR 1	ORIENTATION
School Change	.50*	Humanistic
Teacher-School Interaction	.32	Humanistic
Context Issues	.07	Humanistic
Role of Leadership	.50*	Humanistic
Stability/Consistency Issues	-.56*	Scientific
Curriculum Issues	.48*	Humanistic
Methodological Issues	-.65*	Scientific
Variance Issues	-.21	Scientific
Theory	-.36*	Scientific
Existence/Magnitude Issues	-.34	Scientific
District/State Effects	.60*	Humanistic
International Studies	-.20	Scientific

Note. These results are from a principal components factor analysis of the second round dataset. Data from 142 respondents were included in this analysis. Factor loadings greater in magnitude than $\pm$ .35 are asterisked.

Table 5

Average Rank Scores Given by Humanists and Scientists to Subtopics

SUBTOPIC	HUMANISTS' AVERAGE RANK		SCIENTISTS' AVERAGE RANK		F-VALUE
	MEAN	RANK	MEAN	RANK	
School Change	2.94	1	5.57	4	36.80****
Teacher-School Interaction	3.76	2	5.70	6	17.27****
Context Issues	5.47	5	5.54	3	0.02
Role of Leadership	4.74	3	7.11	9	21.56****
Stability/ Consistence Issues	7.37	8	4.75	2	35.28****
Curriculum Issues	4.89	4	7.36	10	25.00****
Methodological Issues	8.11	11	4.39	1	62.23****
Variance Issues	6.86	7	6.36	8	0.94
Theory	7.77	9	5.67	5	12.96***
Existence/Magnitude Issues	8.10	10	6.08	7	10.73**
District/State Effects	6.50	6	9.13	12	41.09****
International Studies	9.96	12	8.61	11	6.23*

Note. Seventy-two of the respondents were classified as humanists, while 70 were classified as scientists. Respondents ranked subtopics from 1 (most important) to 12 (least important).

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .0001$

Table 6

Comparison of Rankings for All Respondents, Humanists and Scientists

SUBTOPIC	ALL RESPONDENTS	HUMANISTS	SCIENTISTS
School Change	1	1	4
Teacher-School Interaction	2	2	6
Context Issues	3	5	3
Role of Leadership	4	3	9
Stability/Consistency Issues	5	8	2
Curriculum Issues	6	4	10
Methodological Issues	7	11	1
Variance Issues	8	7	8
Theory	9	9	5
Existence/Magnitude Issues	10	10	7
District/State Effects	11	6	12
International Studies	12	12	11

Note. There were 142 respondents, of which 72 were classified as humanists and 70 as scientists. Respondents ranked subtopics from 1 (most important) to 12 (least important). A rank of 1 on this table means the respondents' average rank for that subtopic was the lowest (meaning it was the most important subtopic for that group).

Table 7

Average Rank Scores Given by
Humanists, Pragmatist and Scientist to Subtopics

SUBTOPICS	HUMANISTS' MEAN	HUMANISTS' RANK	PRAGMATISTS' MEAN	PRAGMATISTS' RANK	SCIENTISTS' MEAN	SCIENTISTS' RANK	F-VALUE
School Change	2.83	1	3.91	1	6.06	7	19.64****
Teacher-School Interaction	3.98	2	4.13	2	6.08	8	8.45***
Context Issues	5.21	5	5.59	3	5.72	5	0.40
Role of Leadership	3.96	3	6.20	6	7.69	10	20.37****
Stability/Consistency Issues	8.06	9	5.96	4	4.10	2	31.13****
Curriculum Issues	4.63	4	6.22	7	7.58	9	11.94****
Methodological Issues	8.69	11	6.13	5	3.88	1	37.53****
Variance Issues	7.52	7	6.52	8	5.77	6	4.17*
Theory	7.71	8	7.17	9	5.25	3	6.56**
Existence/ Magnitude Issues	8.29	10	7.63	10	5.33	4	8.93***
District/ State Effects	5.83	6	8.22	11	9.46	12	30.07****
International Studies	10.08	12	8.96	12	8.77	11	2.30

Note. Forty-eight of the respondents were classified as humanists, 46 as pragmatists and 48 as scientists. Repondents ranked subtopics from 1 (most important) to 12 (least important).

* p<.05
** p<.005
*** p<.0005
**** p<.0001